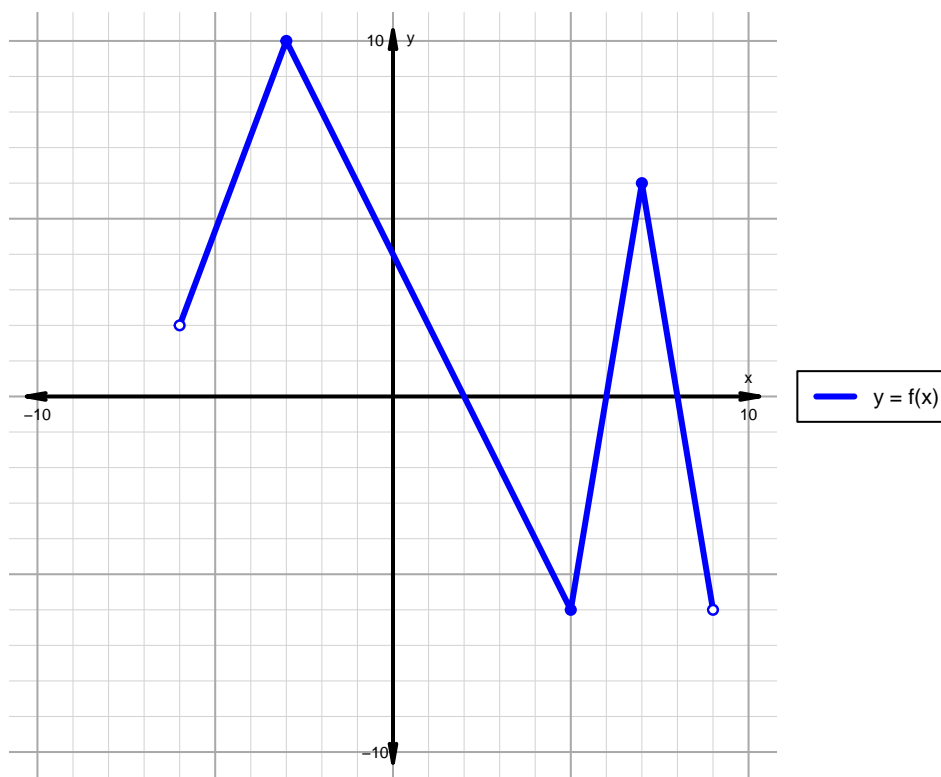


Name: \_\_\_\_\_

Date: \_\_\_\_\_

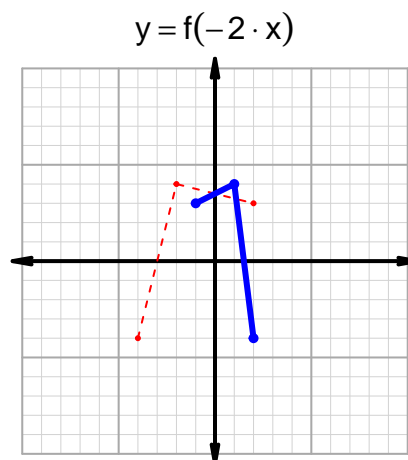
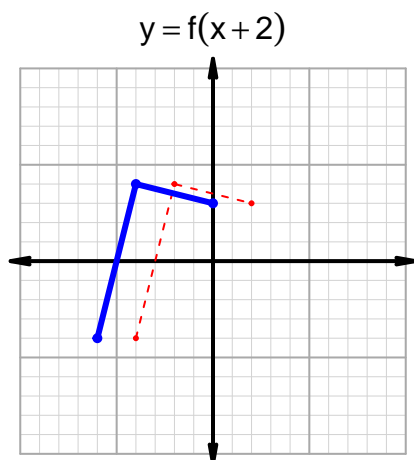
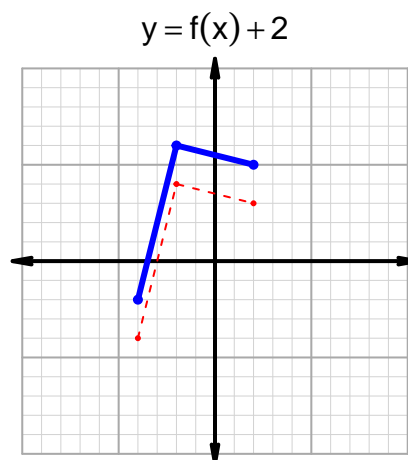
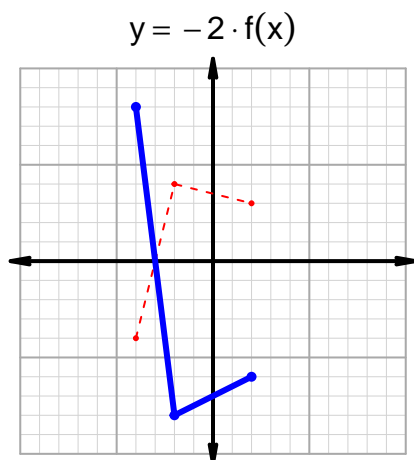
**Intervals, Transformations, and Slope Solution (version 25)**1. The function  $f$  is graphed below.

Indicate the following intervals using interval notation. Remember, you can use  $\cup$  between two intervals to indicate the union. Except for range, all intervals will indicate  $x$  values; this is standard.

Feature	Where
Positive	$(-6, 2) \cup (6, 8)$
Negative	$(2, 6) \cup (8, 9)$
Increasing	$(-6, -3) \cup (5, 7)$
Decreasing	$(-3, 5) \cup (7, 9)$
Domain	$(-6, 9)$
Range	$(-6, 10)$

## Intervals, Transformations, and Slope Solution (version 25)

2. In the four graphs below,  $y = f(x)$  is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function  $g$  be defined by the table below. Use the formula  $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$  to find the average rate of change between  $x_1 = 28$  and  $x_2 = 43$ . Express your answer as a reduced fraction.

$x$	$g(x)$
28	50
43	44
44	28
50	43

$$\frac{g(43) - g(28)}{43 - 28} = \frac{44 - 50}{43 - 28} = \frac{-6}{15}$$

The greatest common factor of -6 and 15 is 3. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-2}{5}$$